

A Review of *Pseudorhizoecus* Green, with a Description of a Related New Genus (Homoptera: Pseudococcidae)

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ABSTRACT

The genus *Pseudorhizoecus* Green and its type-species *proximus* are redescribed; a lectotype is designated, and the diagnostic characters of *P. proximus* are figured. A new genus *Capitisetella* is proposed for *Pseudorhizoecus migrans* Green because the species has several features not known on *P. proximus*. A redescription of *C. migrans* is given and its diagnostic characters are illustrated.

Green (1933) described the genus *Pseudorhizoecus* for the new species *proximus* and *migrans* from Surinam (Dutch Guiana). Green considered the genus to be assignable to the Pseudococcidae and characterized it by the absence of both anal-ring setae and "beaded or areolated" structures present on the anal ring of related genera. After careful examination of all available material of *P. proximus* and *P. migrans*, including the types, I have found that both species have anal-ring setae. In the type-species, *P. proximus*, the anal ring has an inconsistent number of small setae and many isolated protuberances, many of which have apical spicules. In *P. migrans* the anal ring is very different; it has 6 obvious setae that are relatively consistent in size and location, and it lacks the protuberances found on *P. proximus*. Based on these differences and on characteristics of the antennae, leg spines, and body setae it is evident that *proximus* and *migrans* should be placed in different genera.

Genus *Pseudorhizoecus* Green

Pseudorhizoecus Green, 1933:55. Type-species: *Pseudorhizoecus proximus* Green, by original designation.

Body of female robust, about 1 mm. long. Antennae 5-segmented, weakly geniculate, terminal segment with slender, curved sensory setae. Eyes absent. Anal-lobe area undeveloped, without dif-

ferentiating setae or sclerotization. Anal ring with few indiscriminately placed small setae, several cells and many oval protuberances. Legs with characteristic tibial and tarsal spines. Derm with crowded, slender, apically acute setae arranged in bands across segments, with few trilocular pores.

Adult male apterous, with 5-segmented antennae similar to female. Eyes absent. Legs well developed. Penial sheath and aedeagus strongly sclerotized, superficially resembling *Rhizoecus*. Derm with setae crowded in bands across segments as in female.

Discussion.—For a comparison of *Pseudorhizoecus* with the new genus *Capitisetella* see "Discussion" under that genus.

Pseudorhizoecus proximus Green Fig. 1-3

Pseudorhizoecus proximus Green, 1933:55.

Adult female: Broadly ovate. Length, 0.85–0.95 mm; width, 0.75–0.88 mm. Antennae closely spaced, moderately short, stout, tapering toward apex, average length of segments in microns: I, 28; II, 17; III, 14; IV, 11; V, 46; apical segment about 2 times as long as wide, with 4 very slender and 2 short sensory setae; all segments with numerous long, apically acute setae. Interantennal space less than width of segment I. Rostrum moderately stout, averaging 81 μ long, 55 μ wide; rostral loop reaching to or slightly beyond 2nd coxae. Cephalic plate and dorsal ostioles absent.

Legs well developed, fairly stout, elongate, with numerous setae, average length of segments of hind pair in microns: Trochanter, 51; femur, 111; tibia, 99; tarsus, 45; claw, 32; tibiae each with 1 pair stout spines on ventral surface near distal extremity; tarsi each with 2 pairs of elongate spines on ventral surface, the distal pair more

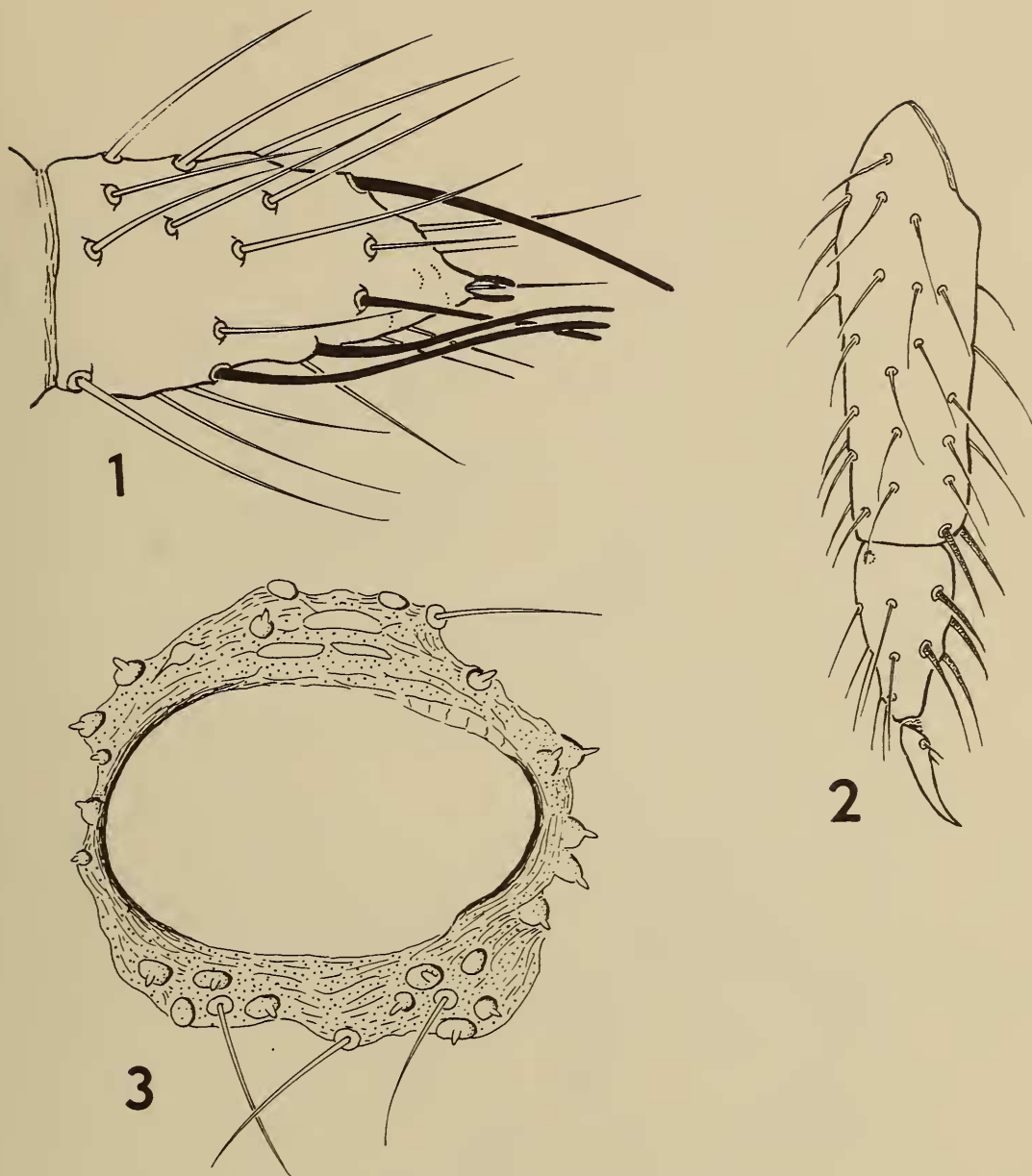


Fig. 1-3, *Pseudorhizoecus proximus*, ♀: 1, antennal segment V; 2, tibia, tarsus and claw of left hind leg; 3, anal ring.

setose, reaching beyond base of claw; digitules short, setose, not reaching half length of elongate, weakly curved claws.

Anal ring irregularly outlined, broader than long, about 52μ wide, strongly sclerotized, without elongate anal-ring setae but with 2-5 short setae about $15-17\mu$ long, few cells, and 25-30 small oval protuberances, most with short, stout spicules. Derm without circuli, cerores, tubular ducts or disk pores; trilocular pores more numerous on venter of posterior abdominal segments and dorsally along borders of setal bands. Body setae slender, apically acute, $15-20\mu$ long, crowded, some longer setae occurring ventrally.

Material examined. — Five slides containing 8 adult females, 2 adult males, 14 immature females, including the type female and cotype male, all from Surinam

(Dutch Guiana), on *Coffea liberica*, 1931-33, G. Bunzli. In British Museum (Nat. Hist.). Since the type slide contains 3 females, and no type specimen was indicated by Mr. Green, I am designating the one ringed with ink on right side of slide as the lectotype.

Thirty-three additional specimens in the U. S. National Museum Collection represent new host and distribution records: Colombia: On *Coffea arabica*, 10-X-56, S. E. Flanders. Costa Rica: On *Musa paradisiaca* var. *sapientum*, 10-V-57, E. B. Dixon; Palmar, 24-VIII-60, L. Roth; Turrialba, on *Theobroma cacao*, 29-VII-56, Neal Weber. Ecuador:

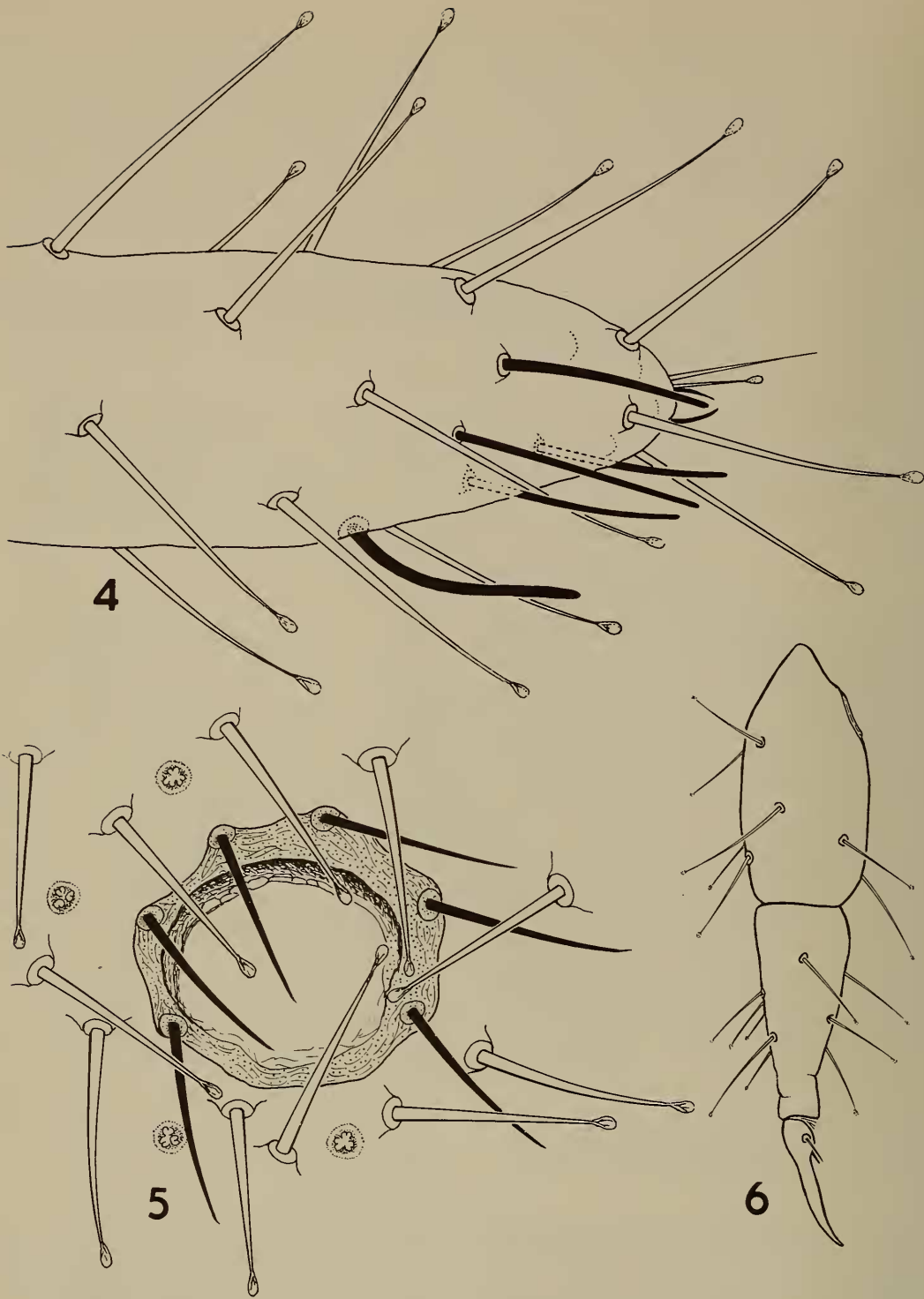


Fig. 4-6, *Capitisetella migrans*, ♀: 4, terminal portion of antennal segment III; 5, anal ring; 6, tibia, tarsus and claw of left hind leg.

Pichilingue, on coffee, 1-X-44, E. J. Hambleton. Guatemala: Retalhulew, on coffee, 16-V-45, E. J. Hambleton.

Capitisetella Hambleton, new genus

Type-species: *Pseudorhizococcus migrans* Green.

Body of female weakly pyriform, averaging 1 mm. long. Antennae 3-segmented, terminal segment with slender sensory setae. Eyes absent.

Anal-lobe area simple, undeveloped without differentiating setae or sclerotization. Anal ring at posterior apex, strongly sclerotized, with 6 regularly placed, slender setae and few elongate cells. Legs stout, with long, capitate setae but without tarsal or tibial spines. Derm with scattered, stout capitate setae and trilocular pores.

Adult male apterous with 3-segmented antennae similar to female; apical segment with 20-25 slender sensory setae of different sizes, and about as many capitate setae. Eyes absent. Legs well

developed. Penial sheath and aedeagus heavily sclerotized, similar in general conformation to that of *Pseudorhizoecus*. Derm with few trilocular pores and capitate setae across segments.

Discussion. — *Capitisetella*, with anal-ring setae, 3-segmented antennae, capitate setae and without leg spines is easily separated from *Pseudorhizoecus*. *Capitisetella* and *Pseudorhizoecus* are similar to *Brevicoccus* Hambleton from Brazil, but *Brevicoccus* differs by having 4-segmented antennae, 12–15 anal-ring setae and multilocular disk pores. The structural arrangement of the anal ring in *Brevicoccus* is similar to *Rhizoecus*. The striking morphological differences in *Brevicoccus*, *Capitisetella* and *Pseudorhizoecus* indicate a departure from the more characteristic rhizoecine form.

Capitisetella migrans (Green), new combination
Fig. 4–6

Pseudorhizoecus migrans Green, 1933:56.

Adult female: Ovate, posterior area slightly produced. Length, 0.97–1.25 mm; width, 0.63–0.72 mm. Antennae widely spaced, average length of segments in microns: I, 50; II, 23; III, 105; apical segment about 3 times as long as wide, with 5–7 slender, variable, weakly falcate sensory setae, all segments with capitate setae. Interantennal space about equal to length of segment III. Rostrum stout, about 105 μ long, 91 μ wide; rostral loop reaching to 2nd coxae. Cephalic plate and dorsal ostioles apparently absent.

Legs well developed, robust, elongate, length of segments of hind pair in microns: Trochanter, 62; femur, 116; tibia, 82; tarsus, 71; claw, 44;

tibiae and tarsi without spines, with capitate setae; claws narrow, weakly curved; digitules very short, setose, not reaching half length of claw.

Posterior abdominal area narrowed toward apex, with no anal-lobe development or differentiating setae. Anal ring simple, wider than long, about 50 μ wide with 6 slender setae about 25–28 μ long; cellular structure indistinct, in preadult female few cells visible below anterior pair of setae. Derm setae variable in size, longest about 45 μ , more abundant ventrally. Circulus, disk pores and tubular ducts absent. Trilocular pores almost circular in outline, more numerous than body setae, sparse ventrally between legs and intersegmentally.

Material examined. — Holotype adult female, 1 adult male, 8 additional females, 24 immature females, from roots of *Coffea liberica* and grasses, Surinam, 1931–45, G. Bunzli. In British Museum (Nat. Hist.). Ten additional specimens including 2 males in process of moulting recorded from roots of grass, Guyana (British Guiana), R. Mazaruni, 31-VIII-35, N. A. Weber. Colombia: On coffee, 10-X-56, S. E. Flanders; Cucuta, on *Panicum maximum*, 10-VI-75, Jenner. In U. S. National Museum.

Acknowledgment

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Reference Cited

Green, E. E. 1933. Notes on some Coccidae from Surinam, Dutch Guiana, with description of new species. *Stylops* 2(3): 49–58.